



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/542,256	02/21/2006	Leif Wilhelmsson	0110-054	5099
42915 7590 01/13/2009 POTOMAC PATENT GROUP PLLC P. O. BOX 270 FREDERICKSBURG, VA 22404				
EXAMINER KIM, KEVIN				
ART UNIT 2611		PAPER NUMBER		
NOTIFICATION DATE 01/13/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

tammy@ppglaw.com

### Office Action Summary

**Application No.**

10/542,256

**Applicant(s)**

WILHELMSSON, LEIF

**Examiner**

Kevin Y. Kim

**Art Unit**

2611

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 7-15-2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 14-18 and 21 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 8-13, 19, 20 and 22-27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date 7/3/07
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3,4,7,14, 15,17,18,21 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamaguchi et al (US 5,761,211).

Claims 1,3,7,15,17,21 .

Yamaguchi et al discloses signal processing apparatus and method, comprising:

a demodulator (11) arranged to demodulate a received signal (input signal), which carries consecutive symbols at a symbol rate, wherein the demodulator is arranged, based on sample values of the received signal, to calculate an error value of a given symbol relative to a decision-directed determination of an expected symbol value (reference pattern, see col.2:59-60);

a phase-shifter (1) arranged to shift the phase of sampling points in time at which points in time, sample values of the received signal are provided to the demodulator; and

a processor (2) arranged to evaluate an error metric, at the symbol rate, for a given symbol as a function of the error value and symbol values, and to determine whether to shift the phase of the sampling points in time based on further evaluation of the error metric.

Claims 4,18.

Yamaguchi et al teaches a QPSK system. See col.5:12.

Claim 14.

Yamaguchi et al teaches the system to be used in CDMA system, implying the system is in a mobile telephone. See col.5:51-55.

3. Claims 2 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kim (US 5,859,671).

Kim discloses signal processing apparatus comprising:

a demodulator (20) arranged to demodulate a received signal (input signal), which carries consecutive symbols at a symbol rate, wherein the demodulator is arranged, based on sample values of the received signal, to calculate an error value of a given symbol relative to a decision-directed determination of an expected symbol value;

a phase-shifter (10) arranged to shift the phase of sampling points in time at which points in time, sample values of the received signal are provided to the demodulator; and

a processor (60) arranged to evaluate an error metric, at the symbol rate, for a given symbol as a function of the error value and symbol values, and to determine whether to shift the phase of the sampling points in time based on further evaluation of the error metric; wherein the error metric is a function of symbol values for symbols preceding (151) and succeeding (152) the given symbol.

***Allowable Subject Matter***

4. Claims 5,6,8-13,19,20,22-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US patents nos. 6,985,549;6,901,146;6,707,861;6,294,325;5,675,565;5,483,555.

These prior art teaches adjusting sampling time of a received signal based on a detected phase error.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Y. Kim whose telephone number is 571-272-3039. The examiner can normally be reached on 8AM --5PM M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin Y Kim/  
Primary Examiner, Art Unit 2611